

Appl. No. 10/707,803  
Amdt. dated January 06, 2006  
Reply to Office action of October 07, 2005

### **REMARKS/ARGUMENTS**

#### **1. Amendments to the Claims**

5 Claim 1 is currently amended to make clear antecedence by correcting the typographical error. No new matter is introduced. Consideration of currently amended claim 1 is respectfully requested.

10 Claims 14 and 15 are currently amended to overcome rejections made by the Examiner. The amendments are fully supported by the specification. No new matter is introduced. Consideration of currently amended claims 14 and 15 is respectfully requested.

#### **2. Claim Rejections**

##### **Claim Rejections under 35 USC §102 as to Claims 14 and 18**

15 Claims 14 and 18 are rejected under 35 USC 102(e) as being anticipated by Callicotte et al. US Patent No. 6,573,785.

Response:

20 To overcome the rejection, claim 1 is amended to include the claim limitation of the previously presented claim 15. Although the Examiner has also in the current Office Action rejected claim 15 under 35 USC 103(a) as being unpatentable over Callicotte et al. in view of Anderson U.S. Patent No. 5,493,246. The Applicants respectfully traverse.

25 In rejecting claim 15, the Examiner alleges that Callicotte teaches all but the claim limitation of resistances of the first and the second output impedance being close to each other; however, that such deficiency can be made up by combining the disclosure of the

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programmable switching capacitors taught by Anderson with Callicotte. The Examiner further alleges that Callicotte and Anderson are common subject matter, so that it would be obvious to one having ordinary skill in the art to combine the two.

5 Callicotte discloses a method, apparatus, and system for common mode feedback circuit using switched capacitors. Anderson discloses a circuit and method of canceling leakage current in an analog array. Providing a guideline for establishing a *prima facie* case of obviousness, the Manual of Patent Examining Procedure (MPEP) makes clear that “[f]irst, there must be some **suggestion or motivation**, either in the references themselves or in  
10 the knowledge generally available to one of ordinary skill in the art, **to modify the reference or to combine reference teachings**. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.**” (Section 2143, MPEP, emphasis added)

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By carefully examining the contents of Callicotte and Anderson, the Applicants are not able to identify any such “suggestion or motivation” as to enable a person of ordinary skill in the art to reasonably combine the teachings of the two references in a way to render the present invention obvious as claimed in claim 15. Furthermore, it is the  
20 Applicant’s position that, even by combining the disclosures of Callicotte and Anderson, the prior art still fails to explicitly teach each and every claim limitation of claim 15. More particularly, the Applicants do not agree with the Examiner’s view that merely applying the programmable switching capacitors of Anderson necessarily implies that a user will change the switching setting to adjust impedance values around the amplifier to  
25 achieve the result of the first and the second output impedance being close to each other, as specifically claimed in claim 15. This is simply not the standard of applying 102 and 103 as set forth in the well-established law.

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In response to the amendment made towards the independent claim 14, the dependent claim 15 is also amended to substitute the claim limitation of the first and the second output impedances being close to each other with the claim limitation of the first and the second output impedances being controlled to be substantially different from each other.

5 The significance of such claim limitation can be found *infra*.

Accordingly, the Applicants contend that the currently amended claim 14 is patentable in front of the cited references currently available, and withdrawal of the rejection against claim 14 and dependent claims 15-18 thereof is respectfully requested.

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**Claim Rejections under 35 USC §103 as to Claims 1-3, 5, and 6**

Claims 1-3, 5, and 6 are rejected under 35 USC 103(a) as being unpatentable over Gulati et al. US Patent Pub. No. 2003/0146786 in view of Anderson US Patent No. 5,493,246.

15 Response:

The Applicants respectfully traverse. Gulati et al. disclose, particularly in Fig. 6, a circuit including an integrator circuit having chopper offset cancellation in the context of ADC. The Examiner specifically referred to Fig. 6 in the current Office Action, stating  
20 that Gulati teaches all of the claim limitations in claim 1, but fails to explicitly disclose the resistances of the first and second impedances as being substantially different from each other as a result of the controlling signals.

Anderson discloses a circuit and method of canceling leakage current in an analog array.  
25 Particularly in Fig. 1, Anderson teaches an analog array comprises of impedance blocks 12, 18, 22, 24, each being composed of a plurality of switching circuits controlled by control signals. The Examiner alleges that since Gulati and Anderson are common subject matter for input and output of switching impedances for the differential amplifier circuit,

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it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporated the concept programmable impedance taught by Anderson into programmable impedance of Gulati. The Applicants disagree with the Examiner's view.

- 5 Providing a guideline for establishing a *prima facie* case of obviousness, the Manual of Patent Examining Procedure (MPEP) makes clear that "[f]irst, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success.
- 10 Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." (Section 2143, MPEP)

Throughout the disclosure of Gulati and Anderson, no such suggestion or motivation have been made as to encourage a person of ordinary skill in the art to combine the teaching of

15 the two references, so as to make obvious the claimed invention as suggested in the currently amended claim 1. Claim 1 suggests the scope of protection as a structure of a first input impedance and a second input impedance coupled to the same negative input end of an operational amplifier. While Gulati does teach such similar structure, as noted by the Examiner, Anderson never does, but proposes a differential structure of impedance

20 block 12 coupling to the negative end of the opamp 14 and impedance block 18 coupling to the positive end of the opamp 14. More importantly, claim 1 recites the limitation of the first input impedance being controlled to have a substantially different value from the second input impedance, so that certain performance boosts, such as a higher voltage gain, or a larger time constant, can be achieved as explained in the specification of the present

25 invention. However, despite of the Examiner's contention that the illustrated controllable impedance block in Fig. 2 of Anderson said limitation can be achieved, Anderson never explicitly teaches such a limitation. Additionally, Anderson's disclosure actually teaches away from the present invention, in that Fig. 1 of Anderson discloses a differential analog

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array. It is well known practice in the art that differential circuits are ordinarily, without special reasons otherwise, being designed and controlled to be symmetrical, and as a result it is more likely than not when Anderson is put into use, impedance blocks 12 and 18 are controlled to have the same impedance value.

5

Accordingly, the Applicants maintain that claim 1 is patentable in front of the cited references currently available, and withdrawal of the rejection against claim 1 and dependent claims 2-6 thereof is respectfully requested.

10 **Claim Rejections under 35 USC §103 as to Claims 7-10, 12, 13, and 21**

Claims 7-10, 12, 13, and 21 are rejected under 35 USC 103(a) as being unpatentable over Yin et al. US Patent No. 6,437,720 in view of Anderson US Patent No. 5,493,246.

Response:

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The Applicants respectfully traverse. The Examiner notes that Yin teaches all of the limitations recited in claim 7 except for the limitation of the third input impedance being substantially equivalent to the second input impedance, and the limitation of the fourth input impedance being substantially equivalent to the first input impedance. However, combining the teaching of Anderson with that of Yin, by incorporating the concept of a programmable impedance block of Anderson to Gulati, the claimed invention as set forth in claim 7 is made obvious. The Applicants do not agree.

20

Similar to the rationale provided earlier regarding the rebuttal of rejection against claim 1, there are no suggestion or motivation found in Yin or Anderson for the combination. Furthermore, although Anderson does teach the impedance block is programmable, Anderson never explicitly teaches that the impedance blocks, for example, 12 and 18, are so programmed as to have equivalent impedance values. This is simply not the standard

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set forth in the law as well as MPEP for obviousness (see *supra*).

Similarly, since Anderson never teaches to program the first and second impedances so that they are close to each other, as required by claim 8, the Applicants further contend  
5 that, in addition to the deficiency set forth in the last paragraph, the rejection by the Examiner as to claim 8 lacks grounds.

Accordingly, the Applicants maintain that claim 7 and 8 are patentable in front of the cited references currently available, and withdrawal of the rejection against claim 7, 8 and  
10 dependent claims 9-13, and 21 thereof is respectfully requested.

**Claim Rejections under 35 USC §103 as to Claim 4**

Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Gulati et al./Anderson as applied to claim 2 above, in view of Sobel U.S. Patent 6,833,759.

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Response:

See above regarding the rejection of claim 1. Claim 4 dependent upon claim 1 is allowable once claim 1 is found allowable.

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**Claim Rejections under 35 USC §103 as to Claim 11**

Claim 11 is rejected under 35 USC 103(a) as being unpatentable over Yin/Anderson as applied to claim 10 above, in view of Sobel U.S. Patent 6,833,759.

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Response:

See above regarding the rejection of claim 7. Claim 11 dependent upon claim 7 is



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allowable once claim 7 is found allowable.

**Claim Rejections under 35 USC §103 as to Claims 15-17**

Claims 15-17 are rejected under 35 USC 103(a) as being unpatentable over Callicotte et  
5 al. as applied to claim 14 above, in view of Anderson U.S. Patent 5,493,246.

Response:

See above regarding the rejection of claim 14. Claims 15-17 dependent upon claim 14 are  
10 allowable once claim 14 is found allowable.

**3. Allowable Subject Matter**

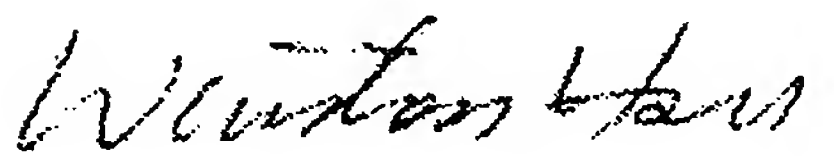
The Applicants are grateful for the Examiner's allowance as to claims 19 and 20.  
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In view of the amendments/arguments suggested above, it is the Applicants' belief  
that all of the claims in this application as current presented have been well put in a state of  
allowance in face of all the cited prior art references made available thus far. Applicants  
respectfully request that a timely Notice of Allowance be issued in this case.

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Sincerely yours,



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